IN THE CLAIMS

1. (Original) An effusion cell designed for use in vacuum evaporation, comprising: a self supporting high emissivity heater filament comprising SiC, said filament extending in a serpentine path; a heat shield that partially encloses said heater filament; a plurality of insulators separating surfaces of said heater filament from surfaces of said heat shield; a supporting baseplate supporting said heat shield and said filament; and a crucible disposed radially inward of said heater filament and designed to retain material.

2. (Original) The effusion cell of claim 1 wherein said heater filament is constructed out of silicon carbide that is comprised of an inner porous materials and an outer non-pourous SiC material of high density.

3. (Original) The effusion cell of claim 2 wherein said SiC filament is encapsulated in a CVD deposited outer layer of densified SiC with low porosity.

4. (Original) The effusion cell of claim 1 wherein said heater filament is constructed from of silicon carbide encapsulated in a ceramic layer comprising such and BN, PBN, diamond, refractory metal oxides.

5. (Original) The effusion cell of claim 1 wherein said heater filament is constructed from of SiC encapsulated in a insulating ceramic such and BN, PBN, diamond, or refractory metal oxides.

6. (Original) The effusion cell of claim 1 where the cylindrical heat shield is comprised of silicon carbide, PBN, or combinateions thereof.

7. (Original) The effusion cell of claim 1 where the supporting baseplate comprises silicon carbide, PBN or combinations thereof.

8. (Original) The effusion cell of claim 1 wherein said cylindrical heat shield is comprised of an inner ceramic layer and an outer metallic layer.

9. (Original) The effusion cell of claim 1 wherein said filament providing a substantially uniform radiation therefrom when electrical current passes therethrough.

10. (Original) The effusion cell of claim 1 wherein said heat shield is generally cylindrical.

11. (Original) The effusion cell of claim 1 wherein said heat shield is generally conical.

12. (Original) The effusion cell of claim 1 wherein said heat shield is generally partially spherical.

13. (Original) The effusion cell of claim 1 wherein said heat shield is generally annular 14. The effusion cell of claim 1 wherein said filament extends along a generally cylindrical contour.

14. (New) The effusion cell of claim 1 wherein said filament extends along a generally cylindrical contour.

15. (Original) The effusion cell of claim 1 wherein said heat shield comprises a ceramic material.

16. (Original) A vacuum deposition system including the effusion cell of claim 1.

17. (Original) A method of making an effusion cell designed for use in vacuum evaporation, comprising: providing a self supporting high emissivity heater filament comprising SiC, said filament extending in a serpentine path; providing a heat shield that partially encloses said heater filament; providing a plurality of insulators separating surfaces of said heater filament from surfaces of said heat shield; providing a supporting baseplate supporting said heat shield and said filament; and providing a crucible disposed radially inward of said heater filament and designed to retain material.

18. (Original) A method of using an effusion cell, said effusion cell comprising: a self supporting high emissivity heater filament comprising SiC, said filament extending in a

serpentine path; a heat shield that partially encloses said heater filament; a plurality of insulators separating surfaces of said heater filament from surfaces of said heat shield; a supporting baseplate supporting said heat shield and said filament; and a crucible disposed radially inward of said heater filament and designed to retain material; and said method comprising heating said heater filament.